

Figure 1: Atrius xLINK™ Service Creation Solution Components

Fig. 1

Fig. 1

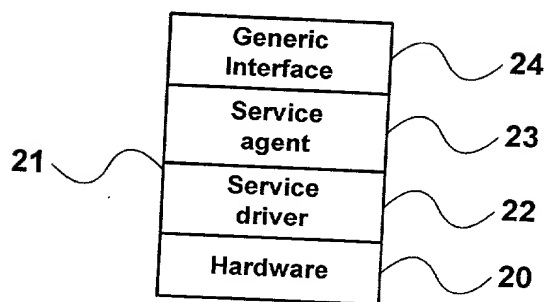


FIG. 2

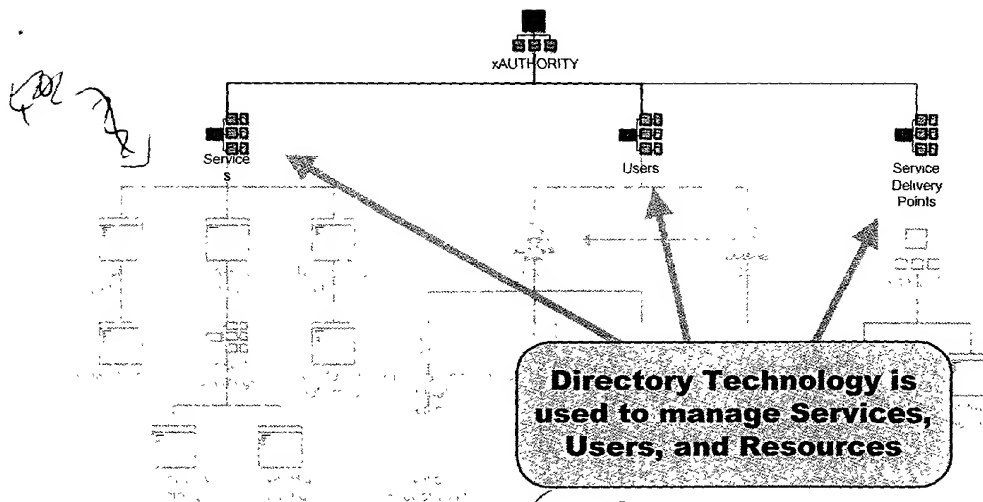


Fig. 3

XML Document: Configuration (1)

XML

```
<configuration:document xmlns:configuration="http://www.atreus-systems.com/TR/WD-service">
  <rule priority=0 direction="input" default="accept" id="setup(1)">
  <rule priority=0 direction="forward" default="deny" id="setup(1)" >
  <rule priority=0 direction="output" default="accept" masquerade="false" id="setup(1)">
  <rule priority=1 direction="forward" s="64.154.202.227/32" d="0.0.0.0/0" port="any" id="activation(1)">
</configuration:document>
```

Fig. 4

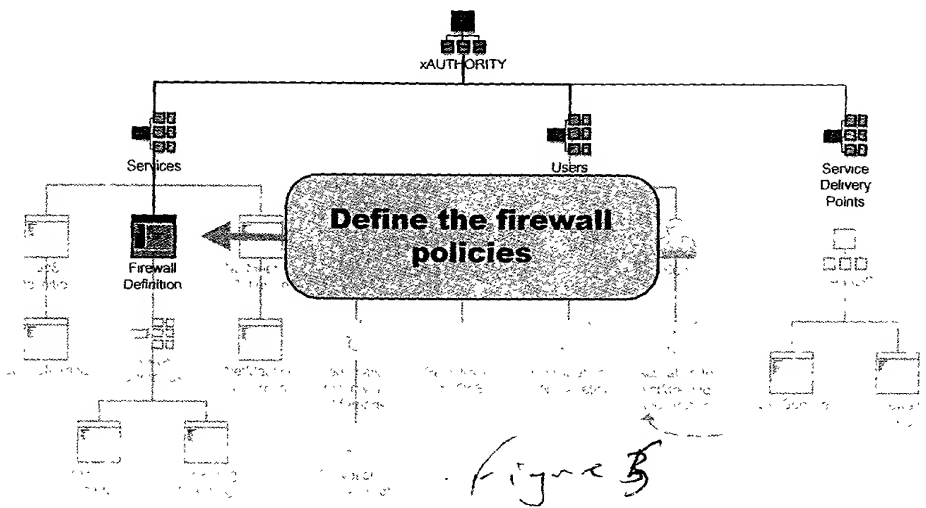
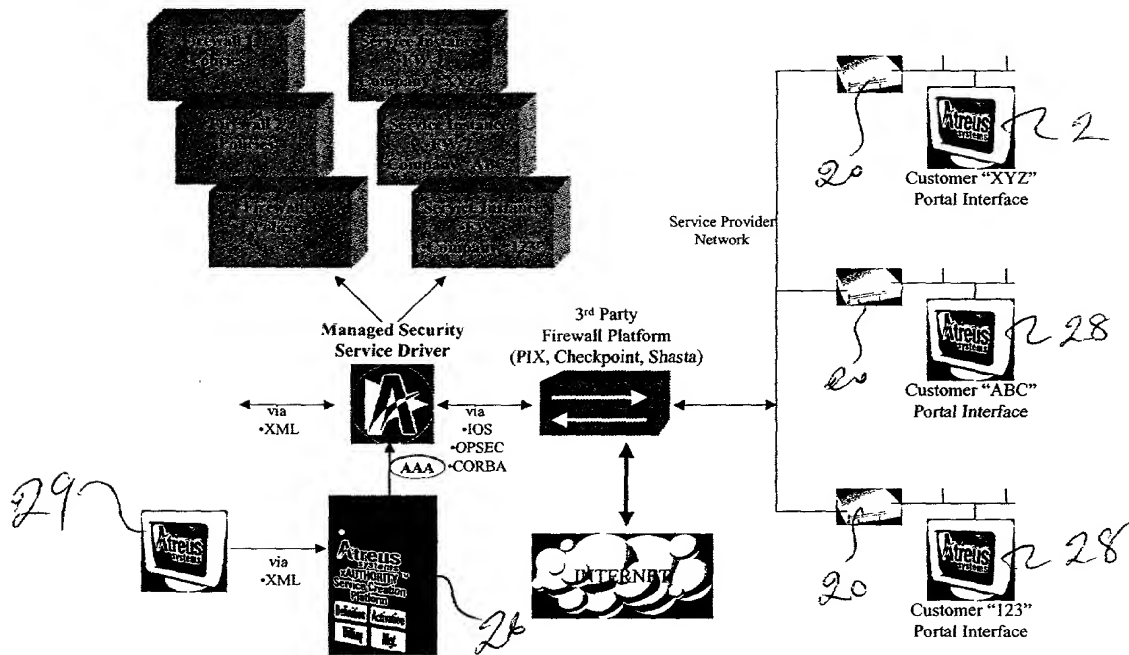
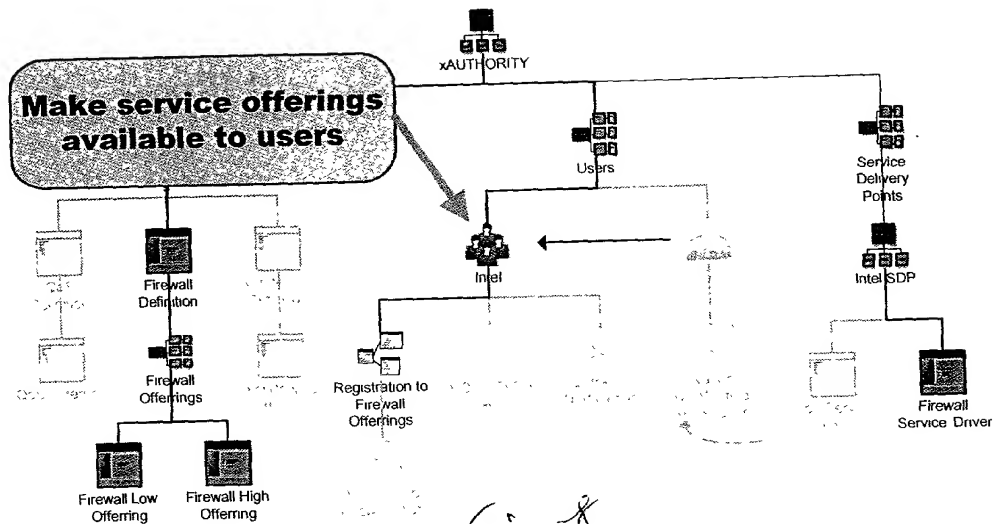


Fig. 5



XML Document: Registration (1)

XML

```
<registration:document xmlns:registration="http://www.atreus-systems.com/TRWD-service">
  <activation:document xmlns:activation="http://www.atreus-systems.com/TRWD-service">
    <registration:variable name="address" from="portal">
    <registration:variable name="user" from="portal">
    <registration:variable name="firewall" from="LDAP">
      <rule scope="$user" name="firewall" find="association">
    </registration:variable>
    <registration:variable name="qos" from="LDAP">
      <rule scope="$user" name="qos" find="association">
    </registration:variable>
    <registration:policy name="$firewall" method="activate" id="$self">
      <rule priority=1 direction="forward" s="$subscriber/32" d="0.0.0.0" port="any" ....>
    </registration:policy>
    <registration:policy name="$qos" method="activate" id="$self">
      <rule address="$subscriber" qos="gold">
    </registration:policy>
    <registration:policy name="cn=billing, ..." method="journal" id="$self">
      <rule customer="$user" service="NetMeeting">
    </registration:policy>
  </activation:document>
</registration:document>
```

Fig. 10

Fig. 10

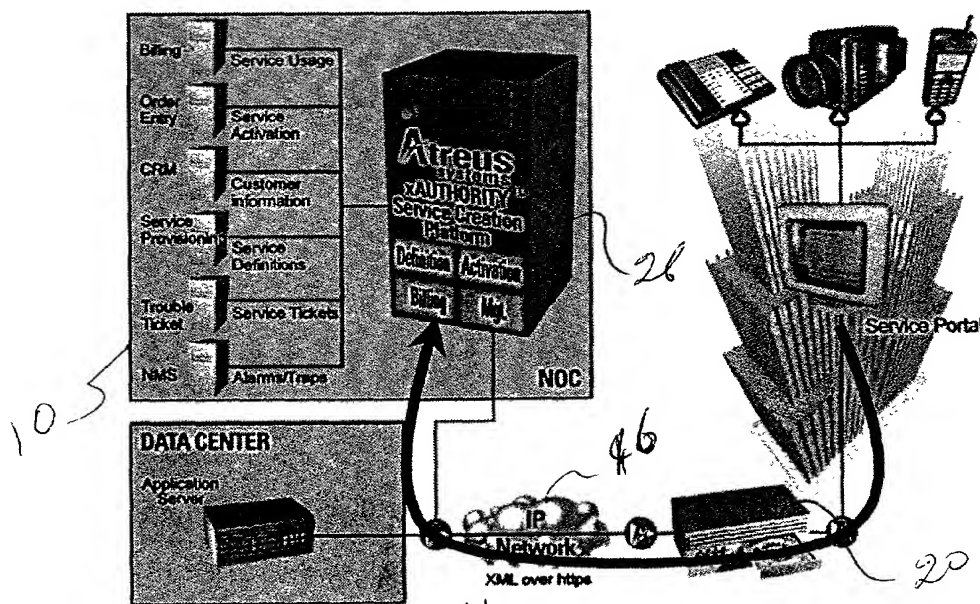


Fig. 11

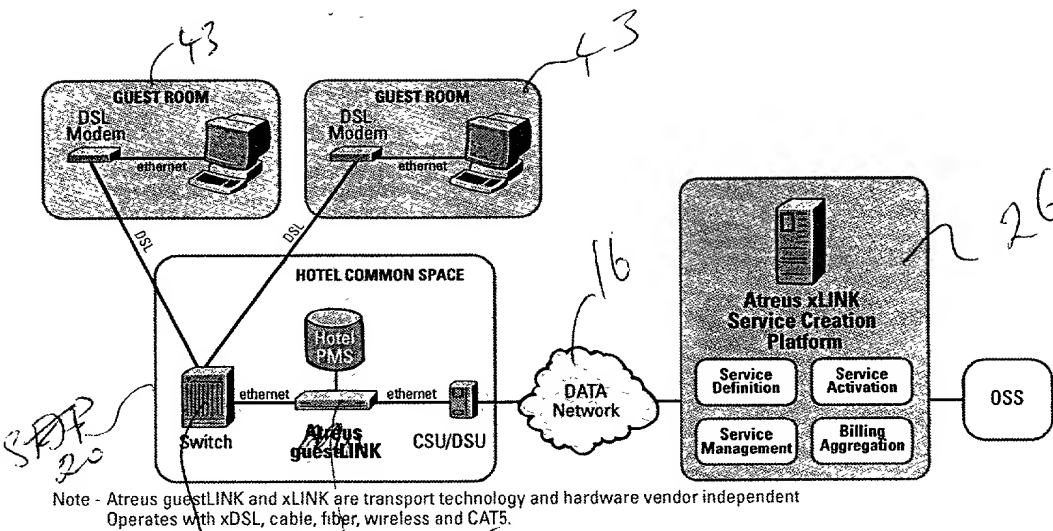
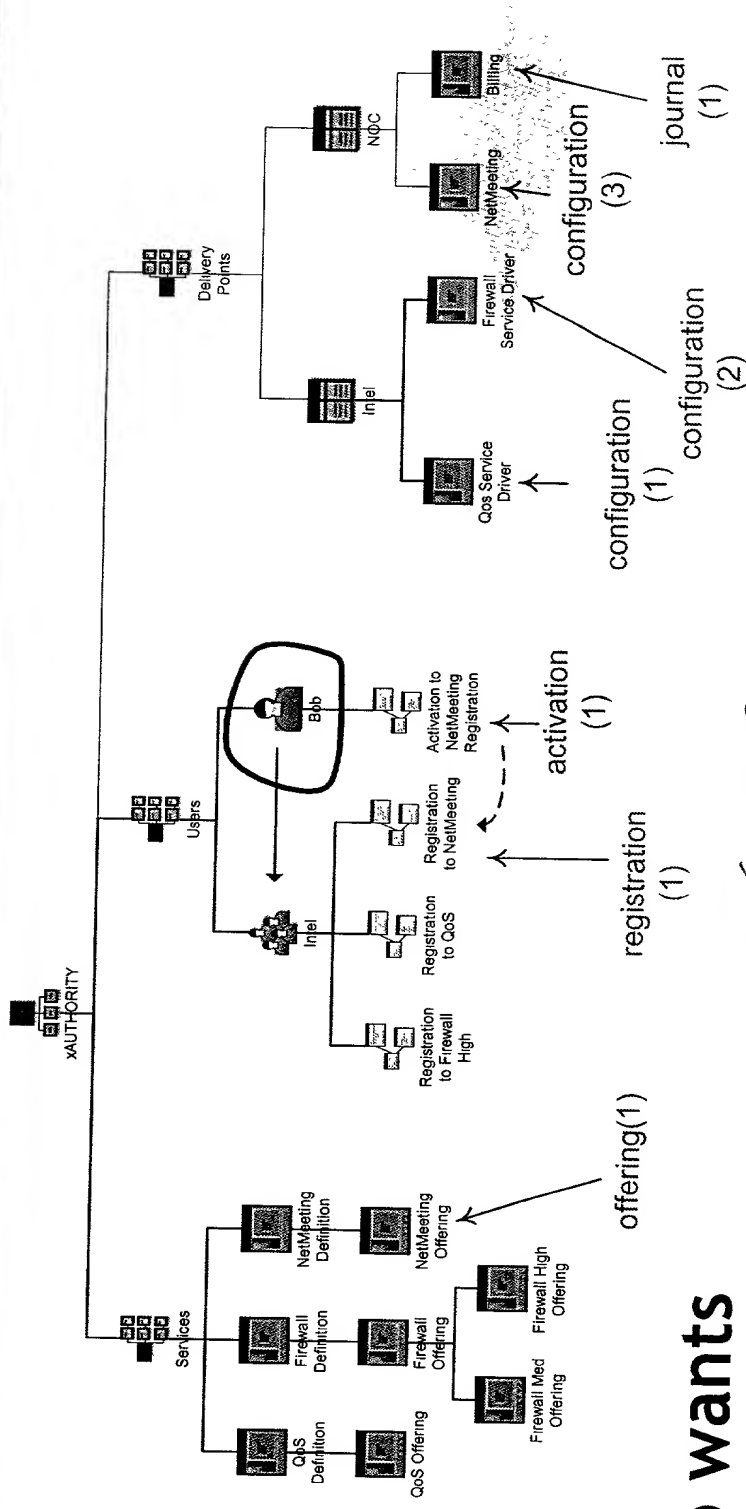


Fig. 12

xLINK Directory Tree: NetMeeting Example



**Bob wants
to join a
NetMeeting!**

~~Fig. 13~~
Fig. 13

Fig. 14



Fig. 15



xLINK Directory Tree: Delivery Points

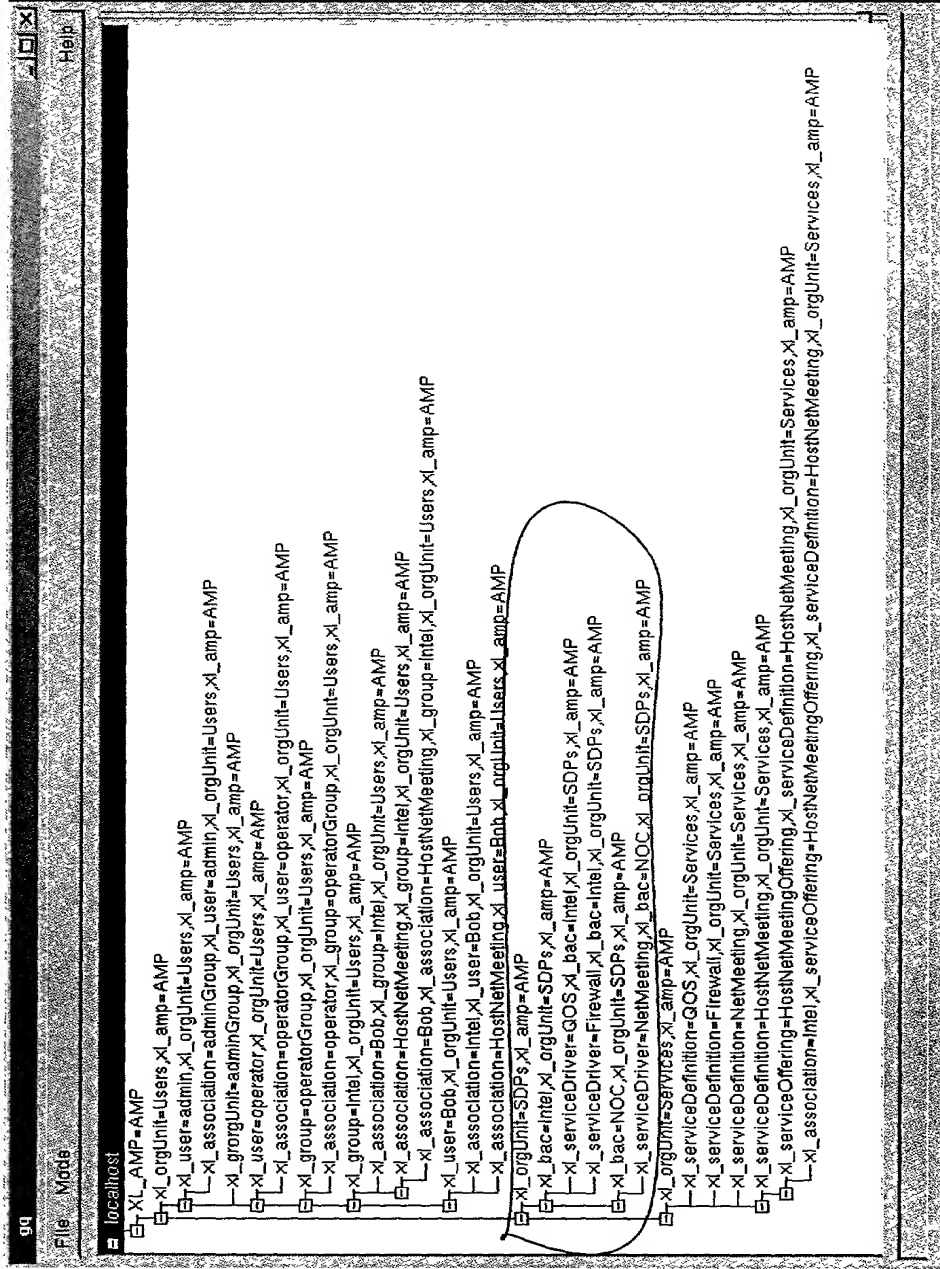


Fig. 16

Define Service Offering

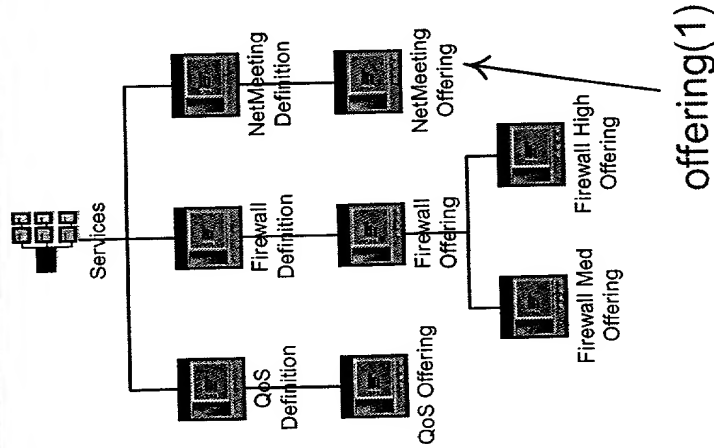


Fig. 17

XML Document: offering (1)

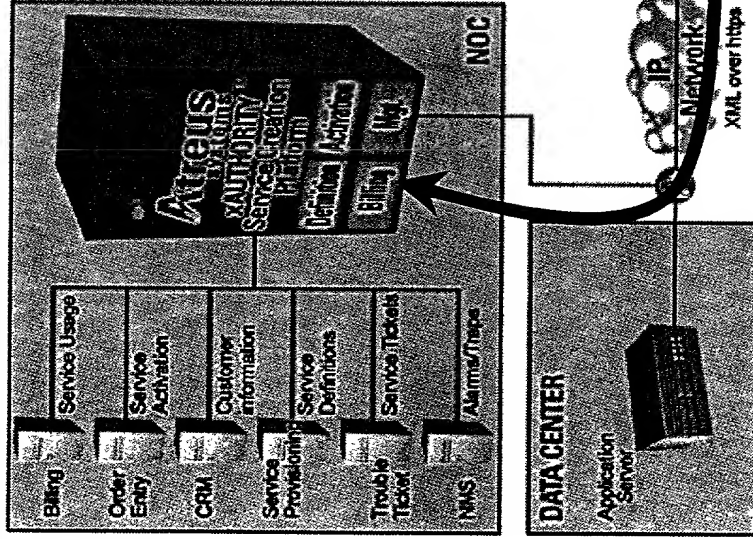
```

<offering:document xmlns:offering="http://www.atreus-systems.com/TRWD-service">
  <registration:document xmlns:registration="http://www.atreus-systems.com/TRWD-service">
    <activation:document xmlns:activation="http://www.atreus-systems.com/TRWD-service">
      <registration:variable name="address" from="portal">
      <registration:variable name="user" from="portal">
      <registration:variable name="firewall" from="LDAP">
        <rule scope="$user" name="firewall" find="association">
          </registration:variable>
        <registration:variable name="qos" from="LDAP">
          <rule scope="$user" name="qos" find="association">
            </registration:variable>
          <registration:policy name="$firewall" method="activate" id="$self">
            <rule priority=1 direction="forward" s="$subscriber/32" d="0.0.0.0" port="any" ....>
              </registration:policy>
            <registration:policy name="$qos" method="activate" id="$self">
              <rule address="$subscriber" qos="gold">
                </registration:policy>
              <registration:policy name="cn=billing, ..." method="journal" id="$self">
                <rule customer="$user" service="NetMeeting">
                  </registration:policy>
                <activation:document>
                </registration:document>
              </offering:document>
            </offering:document>
          </offering:document>
        </offering:document>
      </offering:document>
    </offering:document>
  </offering:document>

```

Fig. B-17

Bob Activates the NetMeeting Service

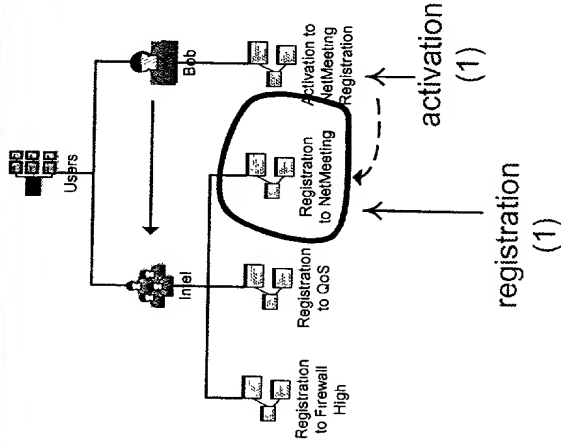


```
<policy name="association=>NetMeeting,..."
  method=activate>
  <rule user="cn=Bob, ..."
    password="Aloha"
    address=64.154.202.227>
  </policy>
```

Bob's portal
sends activation
request to
xAuthority

Fig. 18

Activate NetMeeting Registration Policy



**xAuthority uses
the registration to
complete an
activation
document for Bob**

XML Document: Registration (1)

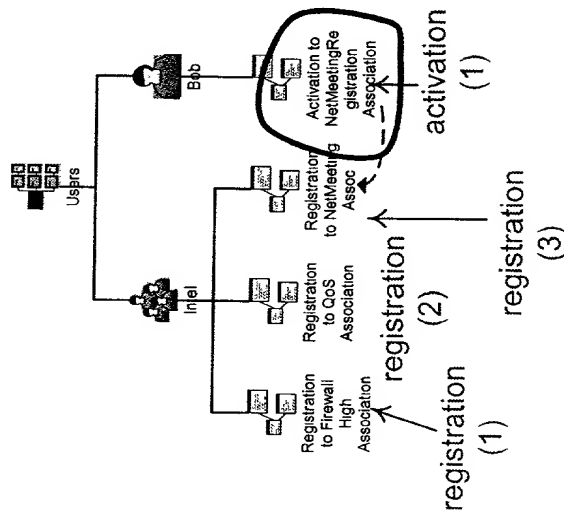
```
<registration:document xmlns:registration="http://www.atreus-systems.com/TRWD-service">
  <activation:document xmlns:activation="http://www.atreus-systems.com/TRWD-service">
    <registration:variable name="address" from="portal">
      <registration:variable name="user" from="portal">
        <registration:variable name="firewall" from="LDAP">
          <rule scope="$user" name="firewall" find="association">
            </registration:variable>
          <registration:variable name="qos" from="LDAP">
            <rule scope="$user" name="qos" find="association">
              </registration:variable>
            <registration:policy name="$firewall" method="activate" id="$self">
              <rule priority=1 direction="forward" s="$subscriber/32" d="0.0.0.0" port="any" ....>
                </registration:policy>
            <registration:policy name="$qos" method="activate" id="$self">
              <rule address="$subscriber" qos="gold">
                </registration:policy>
            <registration:policy name="cn=billing, ..." method="journal" id="$self">
              <rule customer="$user" service="NetMeeting">
                </registration:policy>
            <activation:document>
              </registration:document>
            </activation:document>
          </registration:document>
        </activation:document>
      </activation:document>
    </activation:document>
  </activation:document>
</registration:document>
```

Fig. 19

NetMeeting Activation Policy

XML Document: Activation (1)

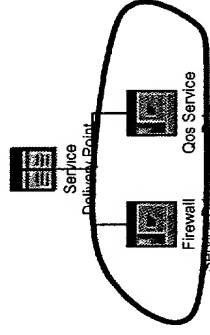
```
<activation:document xmlns:activation="http://www.atreus-systems.com/TR/WD-service">
  <activation:policy dn="cn=Chicago, ..." method="activate" id="activation(1)">
    <rule priority=1 direction="forward" s="64.154.202.227/32" d="0.0.0.0" port="any" protocol="any">
      </activation:policy>
    <activation:policy dn="cn=Chicago, ..." method="activate" id="activation(1)">
      <rule address="64.154.202.227" qos="gold">
        </activation:policy>
      <activation:policy name="cn=billing, ..." method="journal" id="activation(1)">
        <rule customer="dn=>cn=Bob...." service="NetMeeting">
          </activation:policy>
        </activation:document>
      </activation:policy>
    </activation:policy>
  </activation:document>
```



xAuthority keeps a record
of Bob's activation policy

Fig. 20

Service Driver Configuration



configuration
(1) configuration
(2)

Fig. 21

XML Document: Configuration (1)

```
<configuration:document xmlns:configuration="http://www.atreus-systems.com/TR/WD-service">
  <rule priority=0 direction="input" default="accept" id="setup(1)">
  <rule priority=0 direction="forward" default="deny" id="setup(1)" >
  <rule priority=0 direction="output" default="accept" masquerade="false" id="setup(1)">
  <rule priority=1 direction="forward" s="64.154.202.227/32" d="0.0.0.0/0" port="any" id="activation(1)">
</configuration:document>
```

XML Document: Configuration (2)

```
<configuration:document xmlns:configuration="http://www.atreus-systems.com/TR/WD-service">
  <service qos="gold" cfr="1500000" burst="20" id="setup(1)">
  <service qos="silver" cfr="1000000" burst="20" id="setup(1)">
  <service qos="bronze" cfr="500000" burst="20" id="setup(1)">
  <rule address="64.154.202.227" qos="gold" id="activation(1)">
</configuration:document>
```

xAuthority maintains a complete service driver activation policy

Fig. 22

